King County Asthma Forum

Section 1 - Using community health workers to increase asthma knowledge, self-management ability, and the quality of the home environment

(Updated through March 2004)

Objective: **Use Community Health Workers to increase asthma knowledge, self-management ability, the quality of the home environment, and linkages among families and community asthma resources**

Strategic Area: **Improving asthma self-management, improving control of home environmental triggers**

Description

Families often find it difficult to make the changes required to improve asthma care on their own. Community health workers (CHWs) are increasingly used to support asthma management and improve the home environment, particularly among low-income children. Evidence from our Healthy Homes-I evaluation indicates that CHWs have a positive impact on behaviors, exposures, health services utilization and asthma-related quality of life. For general information about Healthy Homes-I, please see (http://www.metrokc.gov/health/asthma/healthyhomes/). KCAF members have also seen beneficial outcomes of another local CHW effort: the Odessa Brown Childhood Asthma Management Project**.**

Two CHWs funded by AAA, three additional CHWs supported by Healthy Homes-II, and one additional CHW funded by the City of Seattle provide asthma education and support in the home. Each CHW will work with approximately 33 households per year, for a total of 200 households over a 2-year period. They provide services in English, Spanish, and Vietnamese. CHWs visit each client three to five times over a one-year period to assess client asthma self-management skills and deliver a protocol-driven set of educational messages and demonstrations to improve their skills (including medication use, action plan, access to services, severity monitoring). The AAA-funded CHWs receive technical oversight from a nurse Asthma Management Coordinator (AMC) who also works directly with families to ensure they receive optimal asthma care. Both the CHWs and AMC serve as an important bridge between families and their medical providers by facilitating and enhancing communication and emphasizing control of the child's asthma in a coordinated way, educating both parties about care guidelines, providing encounter reports and action plans for the provider, and assisting clients with building their provider communication skills.

The CHWs also conduct a comprehensive home environmental assessment by interviewing clients and inspecting the home. Data are collected using the Home Environmental Checklist (HEC)which includes an assessment of exposure to allergen sources (cockroaches, molds, rodents, dust mites, pets) and tobacco smoke, dust control behaviors, and structural and other conditions contributing to exposure problems. The CHWs provide education on identification and reduction of indoor asthma triggers and work with each client to develop an individualized set of actions to improve indoor environmental quality. They also provide action plans to caregivers, providers, and school nurses developed by KCAF as well as resources for implementing the plan. They fit allergy control mattress and pillow encasements for all clients, provide "Green Clean" cleaning kits containing a bucket, cleaning gloves, and safe, low-fume cleaning supplies, and deliver a low emission vacuum.

Progress

The primary process measures for the CHW program involve the number and quality of contacts between CHWs and families. Outcome measures are divided into two areas: asthma self-management and the home environment.

Process Measures

***Process** objective*	*Status/Indicators*	*Next steps*
CHWs trained in self-management support protocols	• 3 AAA CHW's trained • 14.5 training hours completed since January 2003 • CHWs attained required level of knowledge	• Training is ongoing • Developing a CHW knowledge test
CHW recruitment plan developed and implemented	• Comprehensive recruitment plan and supporting materials targeting schools and clinics developed and implemented • Assessed effectiveness and further intensified outreach efforts	Continue assessing effectiveness of recruitment strategies and make necessary changes
CHW screening and data collection tools developed and pilot tested	• Phone screen, triage protocol, baseline and HEC in place	Developing exit interview and satisfaction questions
CHWs working with families on an ongoing basis to increase knowledge, improve asthma care	• 149 clients enrolled • 115 active clients • 34 closed • 347 total visits • 95 environmental assessments • 0 families completing program	
CHWs following AAA protocols on home visits	• 25 protocols established; 9 revised in 2003 • % of clients receiving 90% of universal CAS actions • % of clients for whom at least 3 problem-specific protocols completed	Waiting for data
AMC and CHWs provide care coordination to families	• Care coordinated for over 50 families	Continue care coordination
AMC works one on one with families healthcare providers	• 41 providers received coaching in NHLBI guidelines and strengthening connections to community resources	Continue provider communication

Outcome Measures

***Outcome** objective*	*Status/Indicators*	*Next steps*
Asthma Management		
Increased ability to manage behaviors that influence asthma severity	• % using inhalers, peak flow meters correctly • % adhering to medication • Rx self-management behaviors from scale of asthma monitoring behaviors	Waiting for follow up data
Increase number of families with asthma action plans	• % of families with asthma action plans in place	Waiting for follow up data
Improved quality of life	• Number of symptom days • Score on QOL scale • % with hospital/ER visit • % provider office visits	Waiting for follow up data
Home Environment		
Increase in behaviors that reduce triggers	**All households (e.g.):** • 95 home environmental assessments conducted • 115 families receiving equipment (covers, vacuums, cleaning kits) • % families using mattress covers, vacuuming, ventilating, cleaning kits **Among homes with specific problems (e.g.):** • Removal of pets from homes with pets at baseline • Smoking cessation in households with smokers, etc. • Roaches/rodents eliminated in homes with pests at baseline	• Waiting for follow up data
Improvements in the home environment	• # families receiving an environmental action plan • # families implementing at least xx env. action plan recommendations	• Develop software program that generates home environmental action plan • Waiting for follow up data

Successes, Challenges and Lessons Learned

Successes:

- **Hired bilingual/bi-cultural group of CHWs.** The CHWs are of the same ethnicity as the populations being served. They are also more experienced than CHWs on prior projects. All have experience in various forms of community outreach, have college degrees, and are motivated to serve. They each desire challenging and rewarding careers in public health. This has been a decided advantage in terms of their capacity to learn, be organized, and serve effectively in the CHW role.
- **CHW training curricula developed.** An effective and well-received training curricula including field practice was developed and offered over several weeks for the CHW's and included protocols covering over 30 topics for the home environment, self management support, and miscellaneous related topics. (***Note - link to training curricula document)***
- **Since January 2003, CHWs have received 14.5 hours of training and 30 hours of field practice.** Training is ongoing***.***
- **Assessment tools pilot-tested and in use.** The eligibility screening forms, baseline family survey, and Home Environmental Checklists were pilot-tested repeatedly, refined to be easy to administer and gather only the most important information, and are in use. ***(Note – link to HEC, screening forms and CHW baseline instrument)***
- **A comprehensive recruitment plan and accompanying materials were developed and implemented.** The plan incorporates several avenues for recruiting clients into the CHW intervention and also provides opportunities to increase awareness about the activities of the KCAF. ***(Note – link to recruitment plan)***
- **A systematic triage and referral system** was implemented with community partners to ensure a coordinated approach to CHW asthma services in the county.
- **25 educational protocols** for home interventions were developed and are now in use. ***(Note – link to protocols here)***
- **Data tracking** systems were developed to capture information to fulfill both the local and national evaluation requirements.
- **Caregivers report appreciation for CHW visits, assistance, and equipment.**
- **Caregivers have confidence that CHWs will facilitate communication** with providers and that communication links between providers, school personnel and CHWs are in place.
- **Caregivers have developed their own solutions and include** making sure others clearly understand their issues and then follow through with advice provided; teaching the child to recognize their own symptoms so they can take action early; having child help administer treatments; and teach child when, how, and where to get help.
- **Provider coaching has emerged as an unanticipated but effective bridge** connecting providers working with CHW clients to community resources.

Challenges/Lessons Learned:

- **Recruitment.** It has proved more difficult than anticipated to recruit families for home visits. Client phone numbers and contact information obtained from participating clinics were often not current, making it difficult to reach potential clients. In addition, the Institutional Review Board (IRB) and the Health Insurance Portability Accountability Act (HIPAA) constraints complicated referrals from community partners. Furthermore, the KCAF triage system makes an effort to connect families with the programs that provide the most services, which gives triaging priority to Healthy Homes II, another project with a home outreach component.

How Addressed/Lesson Learned:

- **Intensified outreach.** Outreach efforts have been intensified beyond clinic-based recruitment including more outreach in community settings and to community-based organizations and schools. CHWs are actively engaged in building one-on-one relationships with CBOs, clinic providers and staff, and school personnel who refer families to the program. They are also recruiting at community events. Clinics participating in the Learning Collaborative (the AAA clinical intervention) developed improved referral mechanisms, yielding additional clients. A clinic referral system form is now used to

refer patients to the CHW program. CHWs use the same form to provide clinicians with information about the client's home environment and asthma self-management skills. School based recruitment includes posters at schools, distributing flyers to each student, outreach to school nurses, CHW visits to schools to make presentations to parents and teachers, and providing in-service education and program information to school staff. Over 60 school personnel (teachers, health educators, and family resource planners) attended three continuing education courses offered by AAA staff. The classes exposed attendees to the home intervention and informed them on how to identify and refer children into the intervention. Finally, a protocol for preventing and reducing loss to follow-up was established ***(Note – link to loss to follow up protocol).***

- **Unrealistic timeline for intervention planning and implementation.** The timeline for implementation was unrealistic and was further compounded by IRB delays. The intervention complexity only grew as each challenge was addressed. Because the implementation phase was delayed and extended, the CHWs were trained and ready to begin home visits before the instruments, recruitment plans and protocols were finalized, resulting in downtime for these staff members. The software to generate the home environmental action plan is still in development; therefore, the CHWs are temporarily manually producing the action plan based on data collected from the intake interview and HEC.

How Addressed/Lesson Learned:

Extend time for instrument and protocol development. Protocols should be completed prior to hiring staff and more time should be allowed for completing instruments. While CHWs were waiting for completion of protocols and recruitment plans they assisted with instrument refinement and piloting and gained valuable outreach experience by assisting the American Lung Association with their Master Home Environmentalist program.

- **After receiving at least three CHW home visits, many caregivers remained unaware of other KCAF services such as Neighborhood Asthma Committees or the upcoming asthma play.**

How Addressed/Lesson Learned:

Incorporate information about relevant KCAF activities and services into home visits. Although efficiency during home visits is important, they are opportune for creating awareness about the KCAF in a one-on-one setting. The messages should be short but repeated with each visit to increase understanding and awareness.

- **Following several home visits, misunderstandings and misinformation remained among caregivers about medication use and management.**

How Addressed/Lesson Learned:

- **Develop methods to periodically assess and address** the client's level of understanding, misperceptions, and self-efficacy.
- **Provide medication boxes for each client** that can hold medications and instructions for use.
- **Home visit action plans are not yet in place.** The software-generated plans prioritize a list of actions that caregivers are encouraged to take and are based on an assessment conducted on the first home visit.

How Addressed/Lessons Learned:

CHWs develop a manual action plan based on their initial assessment and comprehension of the most pressing issues and caregiver needs. Ideally, the software should be in place prior to initiating home visits so that action plans are available at intervention onset.

- **Difficulties and challenges exist for caregivers.** They include tiring of nagging children to take their medicine, not having enough time and energy to keep the house mold-free, uncooperative landlords, and a doctor hesitant to make an asthma diagnosis.

How Addressed/Lessons Learned:

Develop a process for CHW's to periodically troubleshoot caregiver difficulties **so issues are jointly addressed and solutions developed throughout the intervention.**